

# Costs to Britain of workplace fatalities and self-reported injuries and ill health, 2018/19

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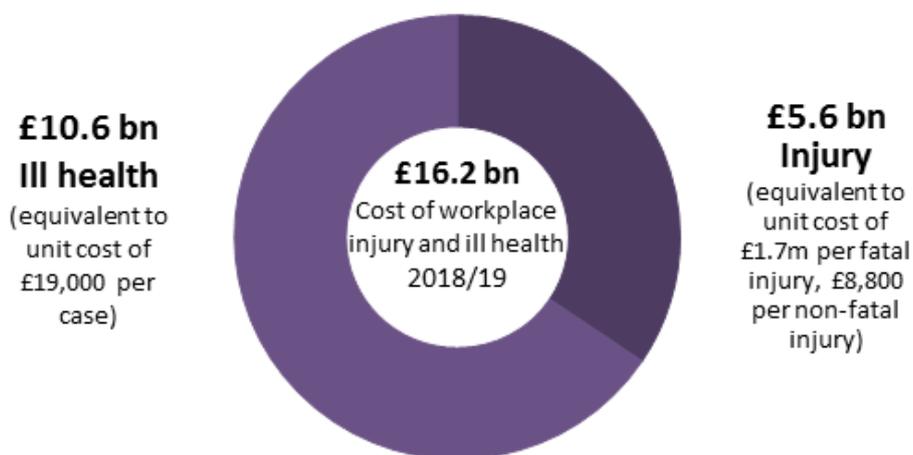
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## Summary

HSE statistics show that each year, over a million workers are injured or made ill by their work in Great Britain. This can have serious effects on these individuals and their families, as well as employers, government and wider society. The impacts can be measured in terms of 'human' costs (the impact on the individual's quality of life and, for fatal injuries, loss of life), and 'financial' costs, such as loss of production and healthcare costs. HSE's estimate of the total costs of workplace injuries and ill health includes both financial costs and a valuation of human costs.

The latest estimates show that annually between 2017/18 and 2019/20 an average of 610,000 workers were injured in workplace accidents and a further 559,000 workers suffered a new case of ill health which they believe to be caused or made worse by their work.<sup>1</sup> The cost estimates (for 2018/19) include only new cases of work-related ill health and self-reported injuries, and exclude pre-existing cases, to represent the costs arising from current working conditions.

### Total to costs Britain were around £16.2bn in 2018/19



**Source:** HSE Costs to Britain model

The total costs of workplace self-reported injuries and ill health in 2018/19 was **£16.2 billion**. Ill health causes the biggest proportion of total costs at around 66% (£10.6 billion), with injury resulting in around 34% of total costs (£5.6 billion).

Ill health contributes to a greater proportion of total costs, despite injuries accounting for a greater proportion of cases, as ill health cases result in a more time off work on average, which drives higher costs.

### Individuals bear the majority of costs

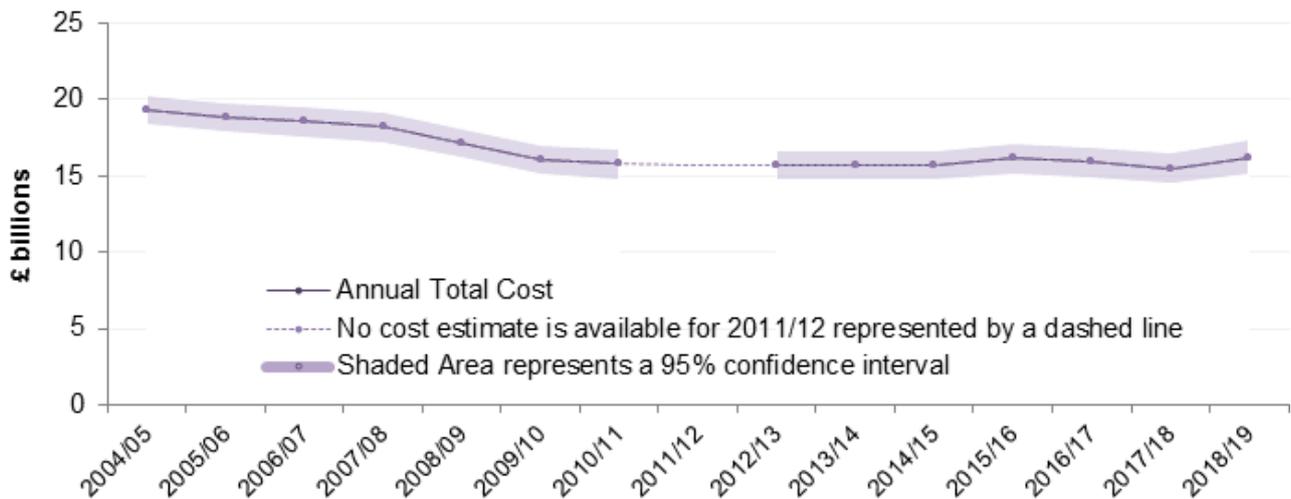


**Source:** HSE Costs to Britain model

The majority of costs fall on individuals, driven by human costs, while employers and government/taxpayers bear a similar proportion of the remaining costs of workplace injury and ill health.

<sup>1</sup> Source: Labour Force Survey (non-fatal injuries) and RIDDOR (fatal injuries), annual average estimate 2016/17-2018/19

## Total costs fell between 2004/05 and 2009/10; broadly level since



Source: HSE Costs to Britain model

**Total costs fell by approximately 17% between 2004/05 and 2009/10**, from £19.3 billion to £16.1 billion, driven by a reduction in the number of workplace injuries. Since then, total annual costs have been broadly level. Ill health costs have been broadly level over the whole period (2004/05 to 2018/19).

Disruption to the economy towards the end of 2019/20 due to the emergence of COVID-19 as a national health issue had the potential to affect workplace injury and work-related ill health data for 2019/20. A paper setting out the issues in more detail along with results of analysis of the headline data from the Labour Force Survey (LFS) and RIDDOR found that COVID-19 does not appear to be the main driver of changes seen in the 2019/20 LFS data.<sup>2</sup>

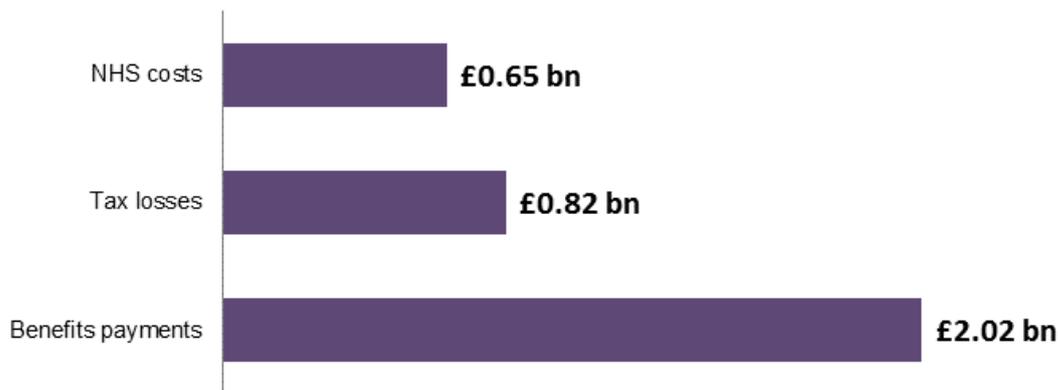
<sup>2</sup> See [www.hse.gov.uk/statistics/adhoc-analysis/covid19-impact19-20.pdf](http://www.hse.gov.uk/statistics/adhoc-analysis/covid19-impact19-20.pdf) for more detail.

## The costs to government

The cost to government of occupational injury and illness were around £3.5bn. This is a significant sum – it is more than the net loss the government suffered from fraud and errors in the benefit system.<sup>3</sup> The cost is also more than half of the estimated NHS spend on obesity-related ill health.<sup>4</sup>

Government costs of occupational injury and illness fall on specific areas of spending, such as benefits and the NHS; but productivity losses also affect the ability of the government to gather taxes on output that is lost.

### Government costs include benefit payments, tax losses and healthcare costs totalling around £3.5 billion



**Source:** HSE Costs to Britain model

The cost to government in terms of benefits payments is around £2.02 billion, with a further £0.82 billion in lost taxes. NHS treatment costs account for a further £0.65 billion. Around 80% of government costs are driven by workers whose injury or illness is so severe that they will never return to work.

As well as the costs estimated in Costs to Britain, occupational injury and ill health detrimentally affect other government priorities, including:

- **Productivity:** ill or injured workers may be less productive when they return to work ('presenteeism'). Their injuries and illnesses may affect their capability to continue in the careers within which they have had the most experience and training;
- **Good work:** the quality and safety of people's employment is vital to their health and well-being across the spectrum of their lives;
- **Health:** aside from the immediate health effects of injury and illness that Costs to Britain captures, the potential effects of long-term exposure on the decline of long-term health will have effects that will last for decades.

<sup>3</sup> [www.gov.uk/government/statistics/fraud-and-error-in-the-benefit-system-financial-year-2018-to-2019-estimates](http://www.gov.uk/government/statistics/fraud-and-error-in-the-benefit-system-financial-year-2018-to-2019-estimates)

<sup>4</sup> [www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment--2](http://www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment--2) -

## Introduction

This report presents latest estimates of the **Costs to Britain of workplace injuries and work-related ill health resulting from current working conditions**.

HSE statistics show that each year, over a million workers are injured or made ill by their work. This can have serious effects on these individuals and their families, as well as employers, government and wider society. The impacts can be measured in terms of ‘human’ costs (the impact on the individual’s quality of life and, for fatal injuries, loss of life), and ‘financial’ costs, such as loss of production and healthcare costs. Estimating the total economic costs of workplace injuries and ill-health by accounting for these impacts allows us to:

- estimate the overall economic burden arising from health and safety risks in today’s workplaces, taking into account the impacts that fall on different groups (individuals, employers and government/taxpayers);
- provide a high-level indicator of movements in the performance of the health and safety system over time;
- provide the costs per case (or ‘appraisal values’) for workplace injuries and work-related ill health for use in economic analysis, such as regulatory impact assessments. This allows us to compare the costs, in monetary terms, of workplace injury and ill health with other costs and benefits associated with a policy intervention.<sup>5</sup>

These ‘Costs to Britain’ estimates aim to **reflect the costs of workplace ill health and injury occurring today arising from current working conditions**. Therefore, they do not include long-latency ill health occurring in the current year caused by historical working conditions (such as work-related cancer), or future cases of ill health caused by today’s working conditions.<sup>6</sup> Figure A1 in [Annex 1](#) provides an illustration of the cases accounted for in this publication.

## Number of workplace injury and work-related ill health cases

The number of annual cases of workplace injury and work-related ill health are important drivers of the total cost estimates. In addition to this, the associated time taken off work from these cases is important in determining costs. Estimates of lost income and lost production are directly related to lost working time. Other impacts, such as healthcare costs and human costs, use time taken off work to infer the severity of cases and the associated costs.

The 2018/19 cost estimates presented in this report are based on the average annual number of workplace injuries and work-related illnesses for the three years 2017/18 to 2019/20.

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<sup>5</sup> It is important to note that the cost estimates presented in this report do not include the costs associated with implementing measures to improve health and safety standards and complying with health and safety regulations.

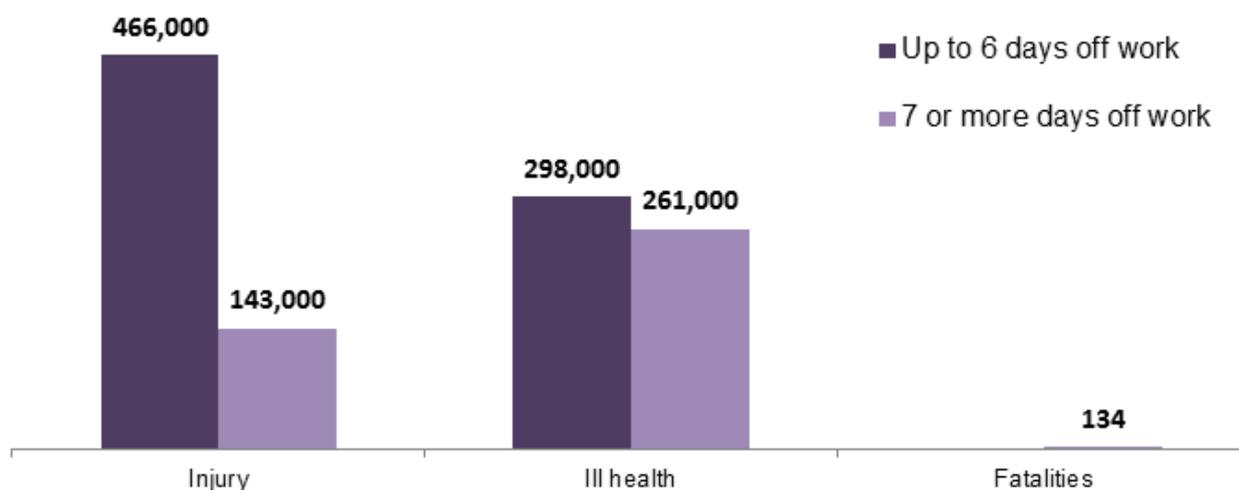
<sup>6</sup> HSE has published research which estimates the costs of new cases of work-related cancer arising from past working conditions. Available at: [www.hse.gov.uk/research/rrhtm/rr1074.htm](http://www.hse.gov.uk/research/rrhtm/rr1074.htm)

## Average annual number of cases of workplace injury and work-related ill health

- 690,000 workplace injuries
- 134 workplace injury fatalities
- 559,000 new cases of work-related ill health

**Source:** Labour Force Survey (non-fatal injuries and ill health), RIDDOR (fatal injuries), annual average 2017/18 – 2019/20.

**Figure 1: Breakdown of injury and new ill health cases by severity category, annual average 2017/18-2019/20**



**Source:** Labour Force Survey (non-fatal injuries and ill health), RIDDOR (fatal injuries)

There were almost three times as many injuries resulting in up to 6 days absence from work (466,000) compared with those resulting in 7 or more days absence (143,000). For ill health, cases resulting in up to 6 days absence from work (298,000) were slightly more common than those resulting in 7 days or more absence (261,000).

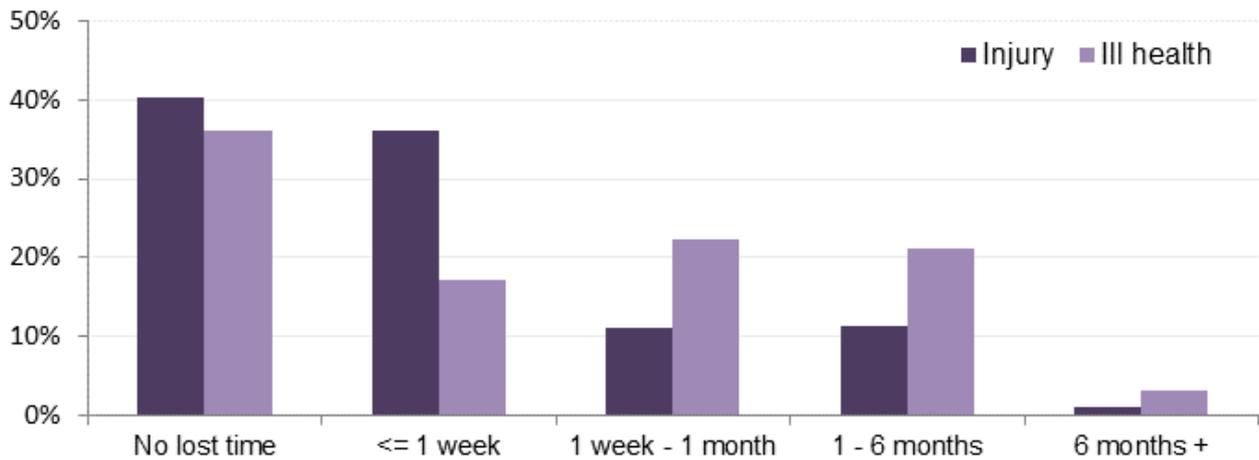
## Time off work resulting from workplace injury or work-related ill health

- An average of 18 days taken off work due to a case of work-related ill health
- An average of 8 days taken off work due to a workplace injury

**Source:** Labour Force Survey

A case of work-related ill health on average results in a longer period off work than a workplace injury. This drives the higher proportion of total costs accounted for by ill health. As shown in Figure 2, ill health cases account for a higher proportion of cases with longer absence from work (1 week and over), while injuries comprise a greater share of shorter absences (less than 1 week).

**Figure 2: Percentage breakdown of workplace injury and new cases of work-related ill health by length of time off work, annual average 2017/18 – 2019/20**



**Source:** Labour Force Survey

Around 36% of the injuries resulted in a week or less off work (excluding cases with no time off), compared with around 17% for ill health. Conversely, around 47% of ill health cases resulted in more than one week off work, compared with around 24% for injuries. The proportion of cases taking no time off work was similar for injuries and ill health at around 40%.

### ‘Never Returns’

- An estimated 16,400 workers withdraw permanently from the labour market annually as a result of a workplace injury or work-related ill health

Annual average 2008/09 to 2011/12, 2014/15 to 2018/19;

**Source:** Labour Force Survey

Workers who permanently leave the labour market as a result of their workplace injury or work-related ill health are an important sub-set of cases, since they incur large costs. Their withdrawal from the labour market will result in lost income and production for the remainder of their working lives. Further, we expect these workers will suffer a greater impact on their quality of life as their injury or illness is likely to be more severe; for the same reasons, we would also expect these cases to incur greater healthcare costs.

It is difficult to estimate the number of individuals who will permanently withdraw from the labour market due to their injury or illness. HSE’s cost estimates use self-reported data from the LFS, as the best available source. However, it is recognised to be an imperfect measure, since it relies on individuals responding to the survey to accurately predict whether their injury or ill health will result in them never working again.

In order to estimate costs of injury and ill health separately, we need to estimate which of these ‘never returns’ arise from workplace injuries and which arise from work-related ill health. The Labour Force Survey suggests that the majority of ‘never returns’ are due to cases of work-related ill health and so within the model a greater proportion of ‘never returns’ cases (87%) are allocated as ‘ill health’ than ‘injury’.

# Results

## Total costs

- Injuries and ill health in workers in Great Britain resulting largely from current working conditions cost around £16.2 billion in 2018/19 (2018 prices)

Source: HSE Costs to Britain model

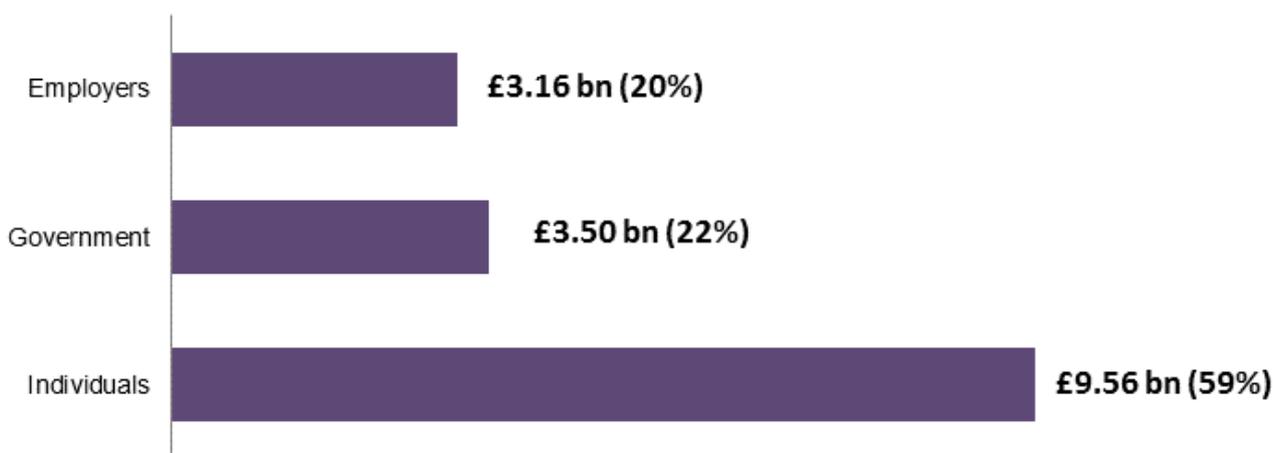
To put this number in context, the Department for Transport (DfT) estimate of the cost of reported road casualties (using a similar costing methodology) was £12.0 billion in 2018.<sup>7</sup>

See the **Method and data** section for a description of the data sources and definitions used to estimate the costs presented in this publication.

## Costs by cost bearer

Figure 3 shows that around £9.56 billion (over half) of the total cost in 2018/19 fell on individuals, whilst the remainder was shared between employers (£3.16 billion) and government (£3.50 billion) – a similar profile as in earlier years. This distribution is useful for understanding the proportion of costs each group bears, once transfers such as compensation payments and state benefits are accounted for.

**Figure 3: Costs to Britain of workplace injury and work-related ill health by cost bearer 2018/19 (in 2018 prices)**



Source: HSE Costs to Britain Model

For data on earlier years, see [table COST03](#) on the HSE website.

<sup>7</sup> [www.gov.uk/government/statistical-data-sets/ras60-average-value-of-preventing-road-accidents](http://www.gov.uk/government/statistical-data-sets/ras60-average-value-of-preventing-road-accidents). (Table RAS60003)

The figure quoted excludes damage to property and damage only incidents, to give a comparable figure to estimates in this report. If the DfT's 2018 estimate of the costs of accidents not reported to the police is included (around £19.1 billion), the costs of road casualties (excluding damage to property and damage only incidents) amounted to some £35.6 billion.

## Costs by cost component

- The major components of total costs to society are human costs (£9.3bn) and productivity costs (£5.4bn)

Source: HSE Costs to Britain model

Figure 4: Costs to Britain of workplace injury and new cases of work-related ill health by cost bearer and cost component 2018/19 (in 2018 prices)



Source: HSE Costs to Britain Model

Figure 4 shows total costs to each cost bearer, net of transfer payments. See **Annexes 2 and 3** for a detailed description and breakdown of these costs and transfers. In summary:

- **Individuals:** Human costs account for almost all the costs borne by individuals (£9.3 billion). Individuals' financial losses arising primarily from lost employment income (£5.2 billion) are – on average – offset by the state benefits, tax savings and sickness payments (£4.3 billion) (captured within 'Productivity costs') and Employers' Liability Compulsory Insurance (ELCI) payments (£0.8 billion), for those impacts accounted for in the cost model. ELCI for individuals shows as negative since it is an inflow to the individual.
- **Employers:** The major costs to employers arise from productivity costs (£1.6 billion) (occupational/ statutory sick pay payments made, plus 'production disturbance' costs) and ELCI premiums (£1.3 billion)
- **Government/ taxpayer:** State benefits paid and lost tax receipts, accounts for more than 80% of government costs (accounted under 'Productivity costs') (£2.8 billion), with the majority of the remainder incurred by the NHS in treatment costs (under 'Healthcare') (£0.8 billion).

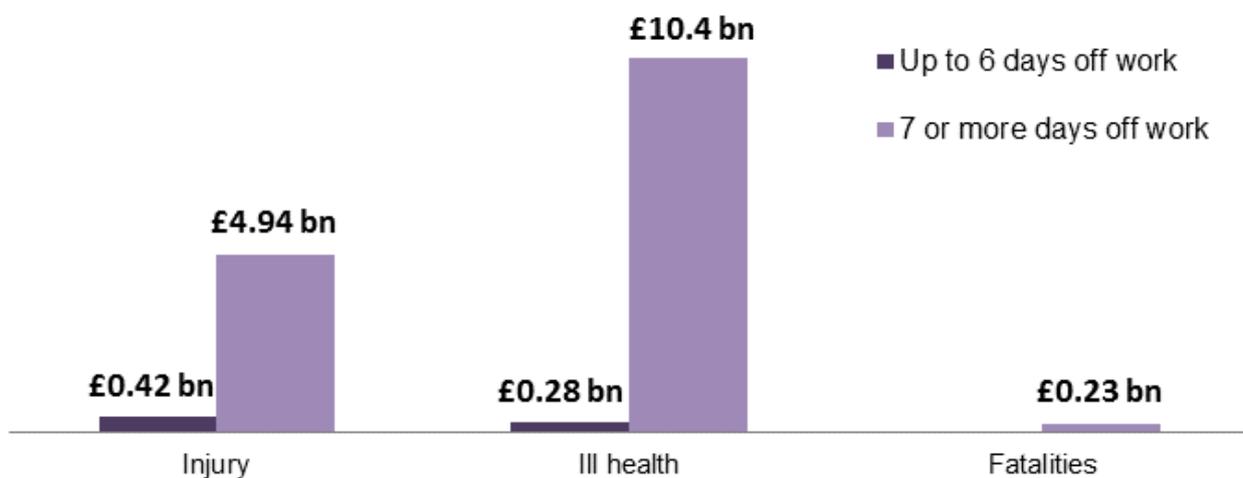
### Costs by injury / ill health category

- In 2018/19, new cases of work-related ill health cost society around £10.6 billion, compared with £5.59 billion for workplace injury
- Cases resulting in 7 or more days off work dominated costs, accounting for £4.94 billion for injuries and £10.4 billion for ill health.
- The total cost of fatal injuries was around £0.23bn

Source: HSE Costs to Britain model

Breaking down costs by injury and ill health category can help inform strategic policy and new programme development, for example concerning interventions in the areas of safety or health.

Figure 5: Breakdown of costs by injury and ill health category



Source: HSE Costs to Britain Model

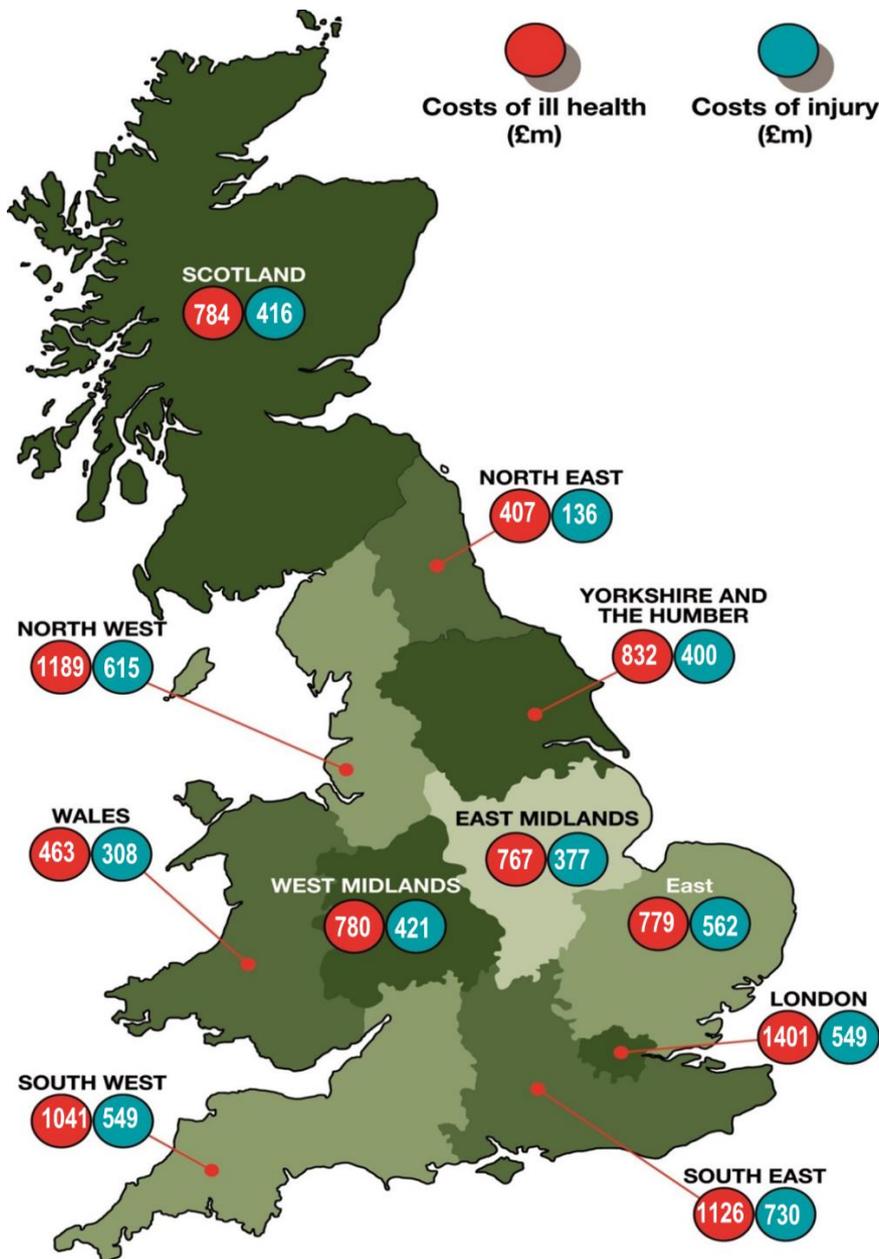
Non-fatal injury and work-related ill health with up to 6 days off work account for less than 5% of total costs, compared with around 65% of all cases. In contrast, cases with 7 days or more off work contribute a disproportionately high amount to total costs. Ill health resulting in 7 days or more off work account for over 60% of total costs but make up just over 20% of all incidence cases. Similarly, injury cases resulting in 7 days or more off work account for around 30% of total costs but represent just over 10% of all incidence cases.

For further information on costs by incident type, including for previous years, please see [table COST02](#) on the HSE website.

## Costs by Region and Industry

Figure 6 and Figure 7 below show the regional and industry breakdowns of the 2018/19 costs estimates. These breakdowns can be used to make the 'local' case for health and safety. However, it is important to note that the differences in costs between regions/ industries do not in themselves indicate variations in health and safety risks and will largely be driven by the number of people working in the region/ industry and the industry mix in each region. Costs in Figure 6 and Figure 7 should therefore only be as an indicator of the magnitude of costs for a particular region or industry of interest and should not be used to make comparisons of levels of risk.

**Figure 6: Costs to Britain of workplace injury and new cases of work-related ill-health by country/region of work 2018/19 (in 2018 prices)**

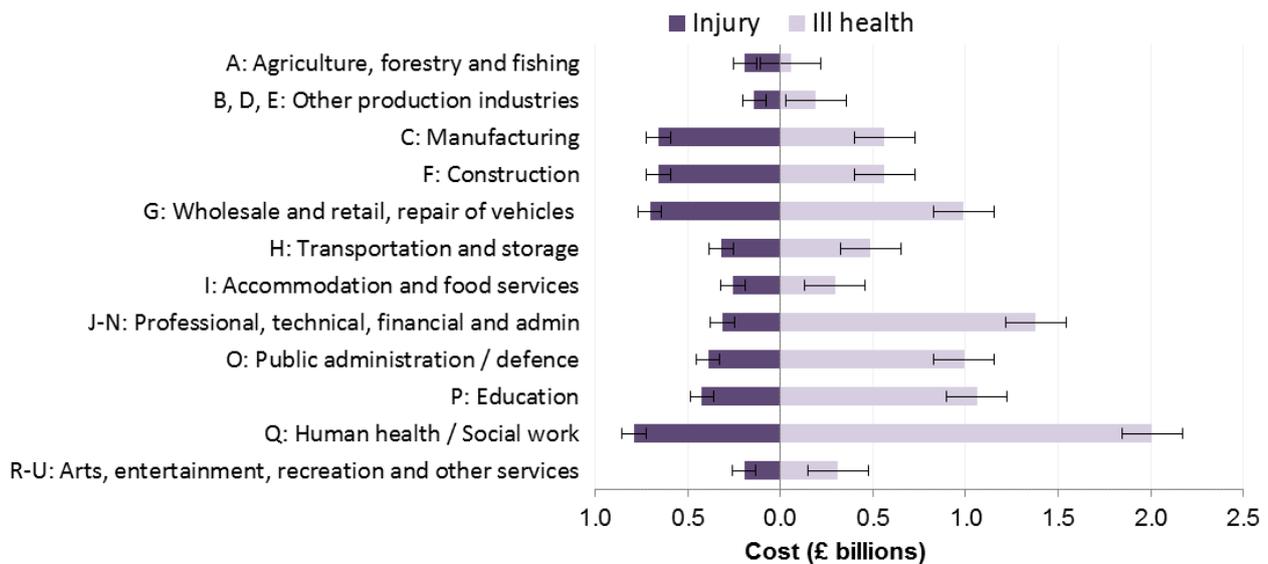


Source: HSE Cost to Britain Model

**Note:**

- (i) these regional estimates are subject to relatively wide confidence intervals, driven by the sampling uncertainty in the underlying estimates of number of workplace injury and ill health cases by region. (Typically, the confidence interval around a regional injury/ill health cost estimate is about +/- 25% of the cost estimate, but as high as +/- 50% on the injury cost estimates for the North East). Nonetheless, regional cost estimates are still a useful measure to demonstrate the local cost burden from workplace injury and ill health and the case for health and safety management.
- (ii) Regional breakdown of costs includes all cases where region of work is known. Ill health and injury cases where region of work is not known amount to a further £1,071 million and £523 million respectively.

**Figure 7: Costs to Britain of workplace injury and new cases of work-related ill-health by industry, 2018/19 (in 2018 prices)**



Source: HSE Costs to Britain Model

**Note:**

- (i) Chart includes an error bar to show the 95% confidence interval for each cost estimate.
- (ii) Industry breakdown of costs includes all cases where the industry of the affected worker is known. Cases where injury and illness industry is not known amount to a further £485 million and £1,712 million respectively.

Total ill health costs were highest in Human health / social work (£2.01 billion), Professional, technical financial and admin (£1.38 billion) and Wholesale and retail, repair of vehicles (£0.99 billion).

Total injury costs were highest in Human health / social work (£0.79 billion), Wholesale and retail, repair of vehicles (£0.71 billion) and Construction (£0.66 billion).

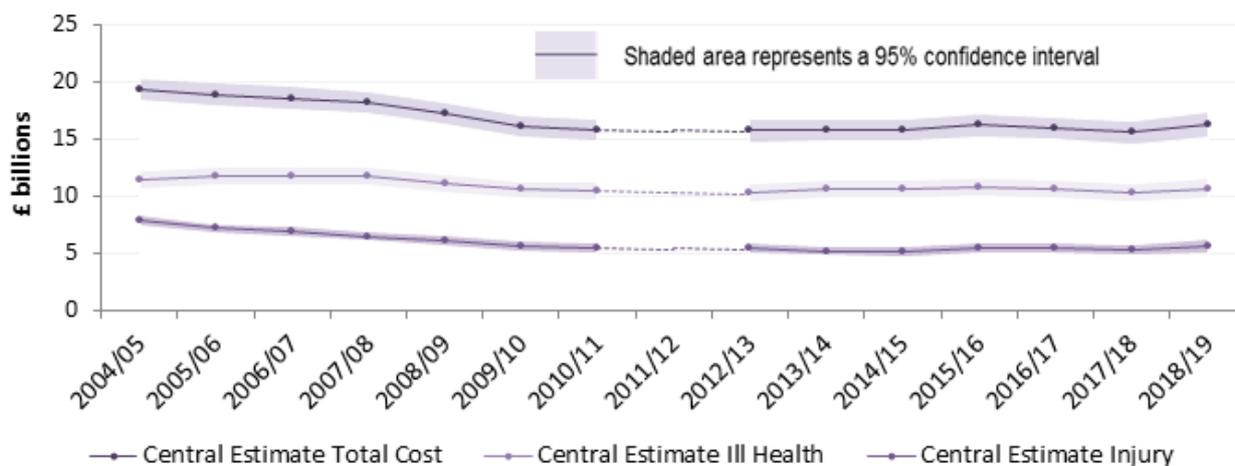
For further information on costs by region and industry, please see tables [COSTREG](#) and [COSTIND](#) on the HSE website.

## Changes in estimated costs over time

- Between 2004/05 and 2009/10, total costs fell by around 17% (from £19.3 billion to £16.1 billion).
- The annual cost has since been broadly level (£16.2 billion in 2018/19)

Changes over time in the aggregate costs provide an indicator of movements in the overall performance of the health and safety system. Since the estimates focus on new cases each year for those who have worked in the past 12 months, they provide a good indication of the effects of working conditions in a given year.

**Figure 8: Costs to Britain of workplace injuries and new cases of work-related ill health, 2004/05 to 2018/19 (2018 prices)**



**Note:** No estimate is available for the year 2011/12, represented by a dashed line.<sup>8</sup>

**Source:** HSE Costs to Britain Model

Between 2004/05 and 2009/10, the estimated total cost fell by around 17%, from about £19.3 billion to £16.1 billion. Since then, the annual cost has been broadly level (£16.2 billion in 2018/19).

However, this overall trend masks a substantial difference in the movements of injury and ill health costs: between 2004/05 and 2009/10, injury costs fell by around 30%, from around £7.90 billion to £5.57 billion – a statistically significant fall. The fall visible in ill health costs over the same period was not statistically significant. Since then, both injury and ill health costs have remained broadly level.

<sup>8</sup> The LFS did not collect ill health data for the year 2012/13, meaning that incidence data to calculate a new 3-year average for 2011/12 (from 2010/11, 2011/12 and 2012/13 data) was not available at the time. The estimate for 2012/13 was based on 2010/11, 2011/12 and 2013/14 LFS data.

## Average costs per case or ‘Appraisal values’

Estimates of average costs per case of workplace injury or ill health are important in cost-benefit analysis of policy interventions. This involves comparing the costs of any proposed new health and safety interventions against the likely benefits (in terms of reduced costs associated with reduced workplace ill health and injury cases) the proposed measure is likely to deliver.

These ‘appraisal values’ are estimated by dividing the total cost estimates by the number of new incidence cases. We publish values for the following categories:

- fatal injury;
- non-fatal injury
  - with 7 or more days absence from work;
  - with up to 6 days absence from work;
- work-related ill health
  - with 7 or more days absence from work;
  - with up to 6 days absence from work.

The average appraisal values for 2018/19 are summarised in Table 1, giving the overall cost per case, financial costs per case and human costs per case.

In most cases these are the values that should be used for HSE regulatory impact assessments and cost benefit analysis of health and safety interventions. Given the considerable uncertainties inherent in these estimates, we recommend that sensitivity analysis is undertaken to test the sensitivity of the appraisal outcome to changes in these values (as well as other variables). The user should also consider whether the injury and ill health classifications above are appropriate for the injury and ill health types under consideration, or whether the values should be adjusted or other more specific sought.

**Table 1: Cost to society (Britain) per case 2018/19 - average appraisal value estimates (2018 prices)**

	Human cost (rounded)	Financial cost (rounded)	Total cost (rounded)
<b>Fatal injuries</b>	1,296,000	449,100	1,745,000
<b>Non-fatal injuries</b>	5,800	3,000	8,800
<i>7 or more days absence</i>	23,400	11,000	34,400
<i>Up to 6 days absence</i>	330	570	900
<b>Ill health</b>	10,100	9,000	19,000
<i>7 or more days absence</i>	21,200	18,500	39,700
<i>Up to 6 days absence</i>	320	620	940

**Source:** HSE Costs to Britain model

A further breakdown of average costs per case by cost bearer can be found at: [www.hse.gov.uk/economics/eauappraisal.htm](http://www.hse.gov.uk/economics/eauappraisal.htm).

# Method and data

## General approach

The general principle for estimating costs is to apply the formula:

$$\text{Cost} = \text{Quantity} \times \text{Unit price}$$

where 'quantity' is the number of workplace injury or ill health cases, by severity category, and 'unit price' is the appropriate monetary value per case for each impact accounted for in the model. Costs are estimated separately using this basic formula, using over 70 data sources, and grouped into the different cost components summarised below.<sup>9</sup>

Information on the number of workplace injury and ill health cases ('quantity') is taken from two sources: statutory reports under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) for estimates of fatal injuries; and survey estimates from the Labour Force Survey<sup>10</sup> of self-reports of non-fatal injury and new cases of work-related ill health. These data are discussed in more detail in the section '**Number of workplace injury and work-related ill health cases**'.

## Cost components

The 'Costs to Britain' include estimates of both:

- **'financial' costs incurred** - either in terms of payments made for services or income/production that is lost due to injury or ill health. These include productivity costs, health and health and rehabilitation costs, administration and legal costs, and Employers Liability Compulsory Insurance costs (ELCI).
- **'human' costs** – the monetary value of the impact on quality and loss of life of affected workers. This is often the greatest impact of ill health and injury. Estimating these costs in monetary terms allows them to be represented alongside other costs, to give a more complete indicator of the total economic burden of workplace injuries and work-related ill health.

Figure 9 below summarises the cost categories. See Annexes 1 and 2 for details of the impacts included in each category.

**Figure 9: Cost categories used in the HSE Costs to Britain model**



<sup>9</sup> Some costs are only available at the 'total' level (e.g. Employers Liability Compulsory insurance) and are included directly into the cost model. For these cost components, assumptions are used to apportion the total cost between injury and ill health cases.

<sup>10</sup> Labour Force Survey Performance and Quality Monitoring Reports see: [www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforce-surveyperformanceandqualitymonitoringreports](http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforce-surveyperformanceandqualitymonitoringreports)

Information on **financial costs** needed to quantify the different cost categories comes from a wide range of sources, including ONS surveys on earnings, NHS data on treatment costs and DWP data on benefit rates. Some cost elements are limited by availability of suitable data to quantify the impact. For example, the estimates do not account for ‘presenteeism’ effects (where injury or illness causes reduced productivity at work) due to a lack of suitable data – though presenteeism costs are likely to be significant.

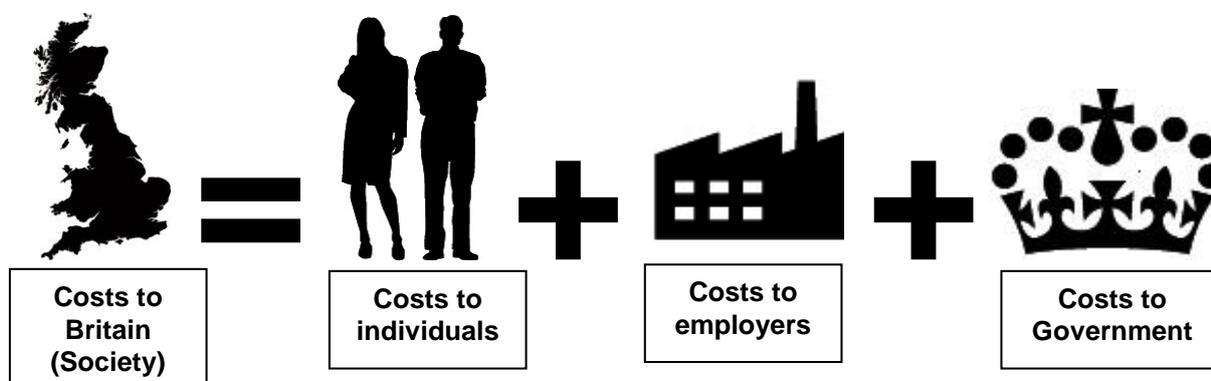
**Human costs** are based on the value that individuals would be willing to pay for a small reduction in the risk of injury or death, over and above any direct financial costs, aggregated across the population to derive an average value for society as a whole. The cost model uses a well-established value, used by other Government departments and agencies, to estimate society’s willingness to pay for reduced risk of fatality.<sup>11</sup> This is a measure of the value that society places on reducing risks to life or health, rather than the value of a life *per se*, and does not represent what individuals would accept in compensation for suffering. It can never fully capture the losses to victims and their families of actual work-related fatalities. A full description of the method used in the cost model to estimate human costs is provided in Appendix 3 of the detailed methodology report.<sup>12</sup>

### Cost bearers

**Costs for the different cost components fall to three distinct groups** or ‘cost bearers’ (individuals, employers and government/taxpayers)...

**... and combining the costs to these three groups gives an estimate of the total cost to society, sometimes referred to as the ‘Costs to Britain’**

**Figure 10: Cost bearers included in this publication**



In some cases, a cost to one group is an equal and opposite benefit for another group. For example, sick pay represents a cost to the employer but is an equal and opposite benefit to the individual who receives it, so at the societal level the sick pay cancels out to zero. These are ‘transfer payments’: a cost from employers transferred as a benefit to individuals.

Total costs to Britain, estimated by summing across the three groups, are net of transfers between groups. The Cost Structure summary at Annex 2 details the monetary inflows and outflows

<sup>11</sup> See Department of Transport’s DfT Webtag Databook July 2020, A4.1.1 [www.gov.uk/government/publications/tag-data-book](http://www.gov.uk/government/publications/tag-data-book) which provides the source for the value of prevented fatalities used in the model.

<sup>12</sup> HSE Research Report RR897 (2011). The costs to Britain of workplace injuries and work-related ill health in 2006/07 - Workplace fatalities and self-reports. Prepared by Risk Solutions for the Health and Safety Executive [www.hse.gov.uk/research/rrhtm/rr897.htm](http://www.hse.gov.uk/research/rrhtm/rr897.htm)

included in the HSE Cost to Britain Model and provides a brief description of each; the estimated monetary values for workplace injuries and ill health in 2018/19 relating to these inflows and outflows are shown in Annex 3.

**Table 2: Summary of cost components by cost bearer**

Cost Category	Cost bearer		
	Individuals 	Employers 	Government / taxpayer 
Productivity Costs	✓	✓	✓
Health and rehabilitation costs	✓	✓	✓
Admin and legal costs	✓	✓	✓
Employers' Liability Compulsory Insurance	✓	✓	
Human costs	✓		

Productivity costs, health and rehabilitation costs, and admin and legal costs apply to all three cost bearers. Employers' Liability Compulsory Insurance applies to individuals (pay-outs) and employers (premiums). Human costs apply to individuals only.

### Accounting for 'uncertainty' in the cost model

The cost estimates are subject to three main sources of uncertainty: **sampling error** in the estimated number of annual ill health and injury cases;<sup>13</sup> **measurement error**; and **uncertainty** in the prices and assumptions used to assign costs. The cost model accounts for sampling error and estimates are often expressed as 95% confidence intervals – the range of values which has a 95% chance of containing the true value (excluding other sources of error). When comparing costs over time, it is important that any judgement on change in costs is based on a consideration of the confidence interval, rather than the central estimate itself.

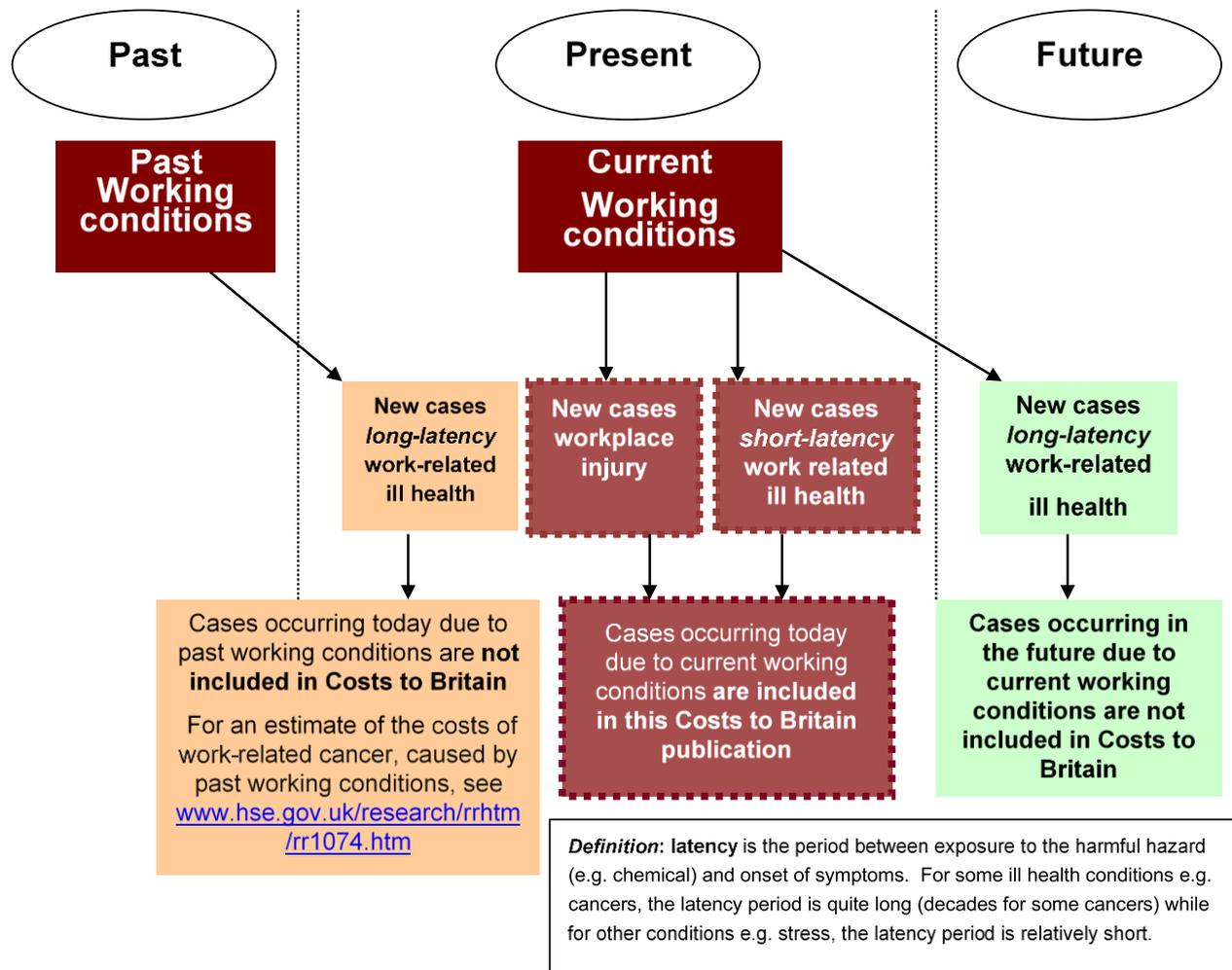
We are unable to quantify the uncertainty associated with measurement error in self-reported injury and ill health cases, or uncertainty in the price data and assumptions used to assign costs. The latter is expected to be considerable, particularly in the case of human costs, which are inherently difficult to value and can only provide an indication of the true costs.

<sup>13</sup> Non-fatal workplace injury and ill health estimates (including never returns) are based on the Labour Force Survey, a sample household survey. Like all sample survey estimates, these estimates of injury and ill health are subject to uncertainty arising from the sampling process – if a different sample of households had been selected it would be highly unlikely we would achieve exactly the same estimate.

# Annexes

## Annex 1: Workplace injury and ill health cases included in 'Costs to Britain'

Figure A1 shows the injury and ill health cases that are included in the Costs to Britain estimate.



**Note:** boxes outlined with a dashed line indicate cases of workplace injury and work-related ill health included in the 'Costs to Britain' estimates.

The 'Cost to Britain' estimates aim to reflect the cost of workplace illness and injury arising from current working conditions and working practices. Therefore, the estimates include new cases of workplace injury and new cases of short latency work-related ill health. The estimates do not include new cases of long latency work-related ill health occurring today due to past working conditions and new cases of work-related ill health occurring in the future due to current working conditions.

## Annex 2: Costing framework: Description cost components by cost bearer

Note: Cost components in red show money outflows; cost components in black show money inflows

Cost component	Description		
Productivity costs	<b>At the society (total) level</b>		
	Captures costs associated with a worker's absence from work:		
	Loss of output (gross loss of earnings) – the cost model assumes full employment in the economy, therefore at the macro level the effect is one less productive worker in the economy;		
	Production disturbance (work reorganisation and recruitment at the business level)		
	Sickness payments, state benefits, changes in tax and national insurance receipts, which are transfer payments and cancel out at the societal level.		
	How the productivity costs fall to the different cost bearers		
	Individual	Employer	Government / taxpayer
	<u>(-) Loss of gross family earnings</u>		
	Loss of gross earnings due to absence from work (both short-term absences in the current year and absences in future years for those whose ill health or injury leads to their permanent withdrawal from the workforce).		
	<u>(+) OSP/SSP receipts</u>	<u>(-) OSP/SSP payments net of reimbursements</u>	<u>(-) SSP reimbursements</u>
	Many employers offer an occupational sick pay scheme (OSP), but others offer only statutory sick pay (SSP) and the self-employed will receive nothing at all from their employer. OSP and SSP provide the individual with income to offset their lost earnings. (The OSP/SSP receipts to the individual are exactly equal and opposite to that paid out by employers and government).	It is assumed that the employer maintains production at the same marginal cost prior to the individuals' ill health or injury by either rearranging work or hiring a replacement. Therefore, the employers OSP/SSP payments represent an additional cost to the employer.	Up until March 2014, the Government provided employers some reimbursement of their SSP payments under certain conditions (known as the percentage threshold scheme).
	<u>(+) State benefit receipts</u>		<u>(-) State benefit payments</u>
	There are a range of state benefits available to		The State benefits paid by the Department of

	people who are not able to work because of injury or ill health, including jobseekers' allowance, industrial injuries disablement benefit, disability living allowance, housing benefit and council tax benefit. Like OSP/SSP receipts these offset individuals' lost earnings		Work and Pensions are exactly equal and opposite to the state benefits received by individuals not able to work.
	<u>(+) Income tax and NI savings</u> The loss of gross income results in the individual 'saving' on their income tax and national insurance contributions to Government.	<u>(-) NI paid on OSP/SSP</u> Payments to absent employees continue to attract employers' class 1 National Insurance contributions.	<u>(-) Net income tax and NI reduction</u> The loss of income tax and NI paid by the individual to the Government is partly offset by the employer NI received on OSP/SSP payments
		<u>(-) Work reorganisation</u> For the first 6 months of any absence the model assumes that the employer will reorganise work to cover the absent employees' duties: this reorganisation incurs managerial/supervisory time.	
		<u>(-) Recruitment and induction costs</u> The model assumes that for absences of 6 months or more, the employer will recruit temporary or permanent replacement staff and provide them with suitable induction support.	
<b>Employers' Liability Compulsory Insurance</b>	<b>At the society (total) level</b>		
	Captures the overhead cost of Employers Liability insurance, a compulsory insurance for all employers, other than Government. Cost represents the profit margin and overheads for the insurance companies and the claim value consumed in legal costs and expenses.		
	How the compensation costs fall to the different cost bearers		
	Individual	Employer	Government / taxpayer
	(+) Lump sum payments to individuals made from claims against Employers' Liability insurance cover.	(-) Total cost of Employers Liability insurance premiums made by employers.	
	<b>At the society (total) level</b>		
	A monetary value of the impact on quality of life of affected workers: often the greatest impact of ill health and injury is on quality of life, including lost life. Sometimes referred to as 'pain, grief and suffering'. UK Government guidance on policy appraisal recommends that impacts on life and health		

<b>Human costs</b>	<b>are valued in monetary terms where possible.</b>		
	How the human costs fall to the different cost bearers		
	Individual	Employer	Government / taxpayer
	(-) A monetary value of the loss of life and impact on quality of life of affected workers.		
<b>Health and rehabilitation</b>	<b>At the society (total) level</b>		
	Total cost of health and rehabilitation associated with workplace injury and work-related ill health (whilst the majority of costs are borne by the Government through NHS funding, there are some additional costs borne by individuals (e.g. prescriptions). Added to this are the profit margins and overheads for insurance companies providing private health insurance.		
	How the health and rehabilitation costs fall to the different cost bearers		
	Individual	Employer	Government / taxpayer
	(-) <u>Out of pocket expenses...</u> ... including prescription charges, additional travel and living costs, home modifications.		(-) <u>NHS treatment and rehabilitation costs...</u> ... including ambulance costs, hospital and clinic costs, GP costs, NHS prescription costs.
	(-) <u>Premiums for private medical insurance</u> Proportion of premiums assumed to be associated with work related incidents (based on data provided by the health insurance industry).	(-) <u>Corporate private health insurance</u> Proportion of premiums assumed to be associated with work related incidents (based on data provided by the health insurance industry).	(+) <u>Treatment and rehabilitation covered by private health insurance</u> Value of medical insurance claims paid by insurers assumed to be associated with workplace incidents (based on data provided by the health insurance industry).
<b>At the society (total) level</b>			

<b>Administration and legal</b>	The costs of administrative activities to individuals, employers and Government associated with informing of sickness absence and processing the various money inflows and outflows from sick pay and benefit payments, compensation and insurance claims etc. The total legal costs and internal labour costs incurred by employers, HSE and Local Authorities are also a net cost to society.		
	How the health and rehabilitation costs fall to the different cost bearers		
	Individual	Employer	Government / taxpayer
	<u>(-) Administration of insurance, compensation and benefit claims</u> Individual incur costs from the administrative activities associated with initiating and managing claims for sick pay and state benefits and compensation and insurance pay-outs.	<u>(-) Administration of SSP/OSP, insurance and compensation claims</u> Employers incur costs from the administrative activities necessary to deal with the above payments and claims.	<u>(-) Administration of SSP and benefits claims</u> The clerical overhead associated with administering state benefits and statutory sick pay is a cost to the government.
	<u>(-) Insurance company profit margin</u> Individuals can have life insurance products to protect their income in the event of death. The cost of insurance to the individual is the net difference between premiums paid and payments received which represent the insurance companies' profit margin and overheads.		
		<u>(-) HSE or LA investigation/prosecution – internal costs + legal costs</u> Cost to employers of management time for dealing with HSE or Local Authority investigations/ prosecutions and the arising legal costs.	<u>(-) HSE or LA investigation/prosecution – internal costs</u> The internal costs borne by the HSE and Local Authorities for investigating work related incidents.
	<u>(-) Fines paid</u> The cost of any fines paid by employers due to breach of health and safety regulations.	<u>(+) Fines received</u> The cost of any fines received by government due to breach of health and safety regulations (equal and opposite to that paid by employers).	

### Annex 3: Detailed breakdown of costs by cost bearer in 2018/19 (2018 prices)

	A. Individuals and their families (including the self-employed)		B. Employers		C. Government and general taxpayer		D. Net costs to society
	Description	£ m	Description	£ m	Description	£ m	£ m
<b>Productivity Costs</b>	Loss of gross family earnings: (i) temporary losses prior to return to work, (ii) permanent losses due to withdrawal from workforce or death	-5,220					-5,220
<b>(Due to income losses)</b>	OSP/SSP receipts	1,302	OSP/SSP payments	-1,302			0
	State benefit receipts	2,024			State benefit payments	-2,024	0
	Income tax and NI saving due to difference between pre and post injury/illness income, assuming all compensation payments are tax free	1,001	National Insurance paid on OSP/SSP	-180	Net income tax and NI reduction	-821	0
<b>Production Disturbance</b>			Work reorganisation	-60			-60
			Recruitment and induction costs for temporary/permanent replacement staff	-84			-84
<b>Compensation</b>	EL insurance receipts, net of legal costs	761	EL insurance premiums	-1,296			-535
<b>Human Costs</b>	Monetised value of human costs	-9,306					-9,306

	A. Individuals and their families (including the self-employed)		B. Employers		C. Government and general taxpayer		D. Net costs to society
	Description	£ m	Description	£ m	Description	£ m	£ m
<b>Health and Rehabilitation</b>	Out of pocket funeral expenses, travel expenses, prescription charges, home expenses	-87			NHS treatment and rehabilitation costs (short and long term)	-750	-837
	Proportion of individual private health insurance premiums attributable to work related illness/injury	-22	Proportion of corporate private health insurance premiums attributable to work related illness/injury	-102	Value of treatment and rehabilitation covered by private health insurance claims	96	-28
<b>Administration and Legal</b>	Administration of insurance, compensation and benefit claims	-7	Administration of SSP/OSP, insurance and compensation claims	-21	Administration of SSP and benefits claims	-27	-55
	Insurance company profit margin and administration costs on other insurance products	-1					-1
			HSE or LA investigation / prosecution - internal costs + legal costs	-66	HSE or LA investigation / prosecution - internal costs	-36	-102
			Fines paid	-56	Fines received	56	0
<b>Total Costs</b>		-9,555		-3,167		-3,506	-16,228

## Annex 4: Sources and definitions

**HSE Costs to Britain Model:** Developed to estimate the economic costs of injury and new cases of ill health arising from current working conditions. The economic cost estimate includes estimates of financial (or direct) costs incurred (either in terms of payments that have to be made or income/output that is lost) and the monetary valuation of the impact on quality and loss of life of affected workers.

**The Labour Force Survey (LFS):** The LFS is a national survey run by the Office for National Statistics of currently around 37,000 households each quarter. HSE commissions annual questions in the LFS to gain a view of self-reported work-related illness and workplace injury based on individuals' perceptions. The analysis and interpretation of these data are the sole responsibility of HSE.

- Self-reported work-related illness: People who have conditions which they think have been caused or made worse by their current or past work, as estimated from the LFS. Estimated total cases include long-standing as well as new cases. New cases consist of those who first became aware of their illness in the last 12 months.
- Self-reported injuries: Workplace injuries sustained as a result of a non-road traffic accident, as estimated by the LFS.

**RIDDOR:** The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations, under which fatal and defined non-fatal injuries to workers and members of the public are reported by employers. Certain types of work-related injury are not reportable under RIDDOR, hence excluded from these figures. Particular exclusions include fatalities and injuries to the armed forces and injuries from work-related road collisions.

**'in 2018 prices':** The price information used for all cost estimates presented in this report are prices that were current in 2018 (e.g. the wage data used to estimate the lost income of an individual is based on average wages in 2018; the tax and national insurance rates used are those that were in place in 2018/19). The majority of sources are inflated to 2018 prices using the relevant price index (Consumer Prices Index, Average Earnings Index, NHSCII Pay and Prices index). Estimating costs for all years in constant 2018 prices means comparisons of costs over time can be made free from price inflation.

**Cost bearer:** The group in society to whom the costs fall. Within the cost model, there are three cost bearers: individuals, employers and government/taxpayer. Note that this assessment considers only where costs fall directly; it does not consider whether costs can be 'passed on' to others e.g. where businesses are able to pass on some or all of their costs in the form of higher prices to consumers.

**Costs to Britain / Costs to Society:** Combining the costs to the three different cost bearers gives a total 'Cost to Britain' (sometimes referred to as 'Cost to Society'). This total cost is net of transfers from one group to another (for example sick pay, which represents a cost to the employer but is an equal and opposite 'benefit' to the individual who receives it).

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**Cost component:** The total cost estimate is made up of a range of different cost elements, including both financial and non-financial costs. Costs can be categorised into 5 broad groups: productivity costs, health and rehabilitation costs, administrative and legal costs, compensation and human costs. More details of each of these cost groups are given in Annex 2.

**Human costs:** A monetary valuation of the impact that the ill health or injury has on the quality of life (and for fatal injuries, loss of life) of the affected worker. Sometimes referred to as 'pain, grief and suffering'.

**Financial costs:** Costs other than 'human costs', where either direct payments are made for goods or services, or where costs can be readily measured using market prices e.g. income/production that is lost.

**'Never returns':** Workers who expect to permanently leave the labour market as a result of their workplace injury or work-related ill health.

**Appraisal values:** The average costs per case of work-related injury or ill health, calculated by dividing the total cost by the number of cases. These values are used in policy appraisal, whereby the costs of any proposed new health and safety interventions are measured against the expected benefits (in terms of reduced costs associated with reduced workplace injury and ill health cases).

**95% confidence interval:** The range of values within which we are 95% confident contains the true value, in the absence of bias. This reflects the potential error that results from surveying a sample rather than the entire population.

**Statistical significance:** A difference between two sample estimates is described as 'statistically significant' if there is a less than 5% chance that it is due to sampling error alone.

## Links

For more information about costs of workplace fatalities, injuries and ill health in Great Britain see:

- Detailed cost breakdown for years 2004/05 to 2018/19:

[www.hse.gov.uk/statistics/tables/index.htm#cost-to-britain](http://www.hse.gov.uk/statistics/tables/index.htm#cost-to-britain)

- Detailed report of the methods used to estimate economic costs:

[www.hse.gov.uk/research/rrhtm/rr897.htm](http://www.hse.gov.uk/research/rrhtm/rr897.htm)

- For more detail on the annual number of injury and work-related ill health cases, used within the cost model, see:

- For fatal injuries: [www.hse.gov.uk/statistics/tables/index.htm#riddor](http://www.hse.gov.uk/statistics/tables/index.htm#riddor)
- For non-fatal injuries and ill health: [www.hse.gov.uk/statistics/lfs/](http://www.hse.gov.uk/statistics/lfs/)

- Research report on the costs of new cases of work-related cancer in Great Britain due to past working conditions: [www.hse.gov.uk/research/rrhtm/rr1074.htm](http://www.hse.gov.uk/research/rrhtm/rr1074.htm)

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An account of how the figures are used for statistical purposes can be found at [www.hse.gov.uk/statistics/sources.htm](http://www.hse.gov.uk/statistics/sources.htm).

For information regarding the quality guidelines used for statistics within HSE see [www.hse.gov.uk/statistics/about/quality-guidelines.htm](http://www.hse.gov.uk/statistics/about/quality-guidelines.htm)

A revisions policy and log can be seen at [www.hse.gov.uk/statistics/about/revisions/](http://www.hse.gov.uk/statistics/about/revisions/)

Additional data tables can be found at [www.hse.gov.uk/statistics/tables/](http://www.hse.gov.uk/statistics/tables/).

General enquiries: Economist [michael.zand@hse.gov.uk](mailto:michael.zand@hse.gov.uk)

Journalists/media enquiries only: [www.hse.gov.uk/contact/contact.htm](http://www.hse.gov.uk/contact/contact.htm)

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